



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/614,894	07/09/2003	Byung Woo Kang	2336-192	8436

7590 02/23/2005

LOWE HAUPTMAN GOPSTEIN GILMAN & BERNER, LLP  
Suite 310  
1700 Diagonal Road  
Alexandria, VA 22314

EXAMINER

MARTINEZ, JOSEPH P

ART UNIT	PAPER NUMBER
----------	--------------

2873

DATE MAILED: 02/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H.A

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/614,894	KANG ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Joseph P. Martinez	2873	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) ☒ Responsive to communication(s) filed on 12 November 2004.

2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4) ☒ Claim(s) 1-60 is/are pending in the application.

4a) Of the above claim(s) 1-5 is/are withdrawn from consideration.

5) ☒ Claim(s) 35-56 is/are allowed.

6) ☒ Claim(s) 6, 7, 11, 17, 18, 22 and 27 is/are rejected.

7) ☒ Claim(s) 8-10, 12-16, 19-21, 23-26, 28-34 and 57-60 is/are objected to.

8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on 09 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☒ All    b) ☐ Some    c) ☐ None of:

1. ☒ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.

3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
Paper No(s)/Mail Date <u>7-9-03</u> .	6) <input type="checkbox"/> Other: _____

## **DETAILED ACTION**

### ***Specification***

The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### ***Election/Restrictions***

Applicant's election with traverse of Group II in the reply filed on 11-12-04 is acknowledged. The traversal is on the ground(s) that *if* the object to be transported is a lens, then the combination claimed can be used as a zoom lens. This is not found persuasive because the combination as claimed does not require the particulars of the subcombination as claimed because the combination does not require the particulars of a lens for guiding reciprocating movement. Furthermore, because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

The requirement is still deemed proper and is therefore made FINAL.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Art Unit: 2873

Claims 6, 7, 11, 17, 18, 22 and 27 are rejected under 35 U.S.C. 102(b) as being fully anticipated by Itsumi et al. (5101278).

Re claim 6, Itsumi et al. teaches for example in fig. 7A and 7B, a driving device for transporting an a lens (14) of an optical instrument, comprising: guide means (58) connected perpendicularly (wherein the office interprets the guide to be perpendicular to the plane of the lens) with the lens (via 56) for guiding reciprocating movement of the lens (col. 7, ln. 27-30); and driving means (60) arranged coplanar (fig. 7A) with the lens and fixed by a first end (via 56) to a periphery of the lens (col. 7, ln. 14-16) for providing the lens with a transport force which is larger than an interactive force between the lens and the guide means (col. 7, ln.19-23).

Re claim 17, Itsumi et al. teaches for example in fig. 7A and 7B, a driving device for transporting a lens (14) in an optical instrument, comprising: guide means (58) connected perpendicularly (wherein the office interprets the guide to be perpendicular to the plane of the lens) with the lens (via 56) for guiding reciprocating movement the lens; and driving means (60) having a first end fixed perpendicularly (wherein the office interprets the piezoelectric actuator to be perpendicular to the face of the lens) to a face of the lens (via 56) to provide the lens with a transport force which is larger than an interactive force between the lens and the guide means (col. 7, ln.19-23).

Re claims 7 and 18, Itsumi et al. further teaches for example in fig. 7A and 7B, the driving means comprises a piezoelectric element powered by a supply voltage (col. 7, ln. 17-23).

Re claims 11 and 22, Itsumi et al. further teaches for example in fig. 7A and 7B, a lens frame (56) for surrounding the periphery of the lens (14), wherein the first end of the piezoelectric element is fixed to the lens frame (col. 13-16).

Re claim 27, Itsumi et al. further teaches for example in fig. 7A and 7B, the guide means comprises an external frame (56, wherein the office interprets the frame to be a part of either the lens as a frame or the guide as a frame) contacting with a peripheral surface of the lens (14) to guide reciprocating movement of the lens (col. 7, ln.19-23).

***Allowable Subject Matter***

Claims 35-56 are allowed.

Claims 8-10, 12-16, 19-21, 23-26, 28-34 and 57-60 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is an examiner's statement of reasons for allowance: the prior art taken alone or in combination fails to anticipate or fairly suggest the limitations of the claims, in such a manner that a rejection under 35 USC 102 or 103 would be proper. The prior art fails to teach a combination of all the claimed features as presented in independent claims 35, 43 and 50.

Art Unit: 2873

The following is a statement of reasons for the indication of allowable subject matter: the prior art taken alone or in combination fails to anticipate or fairly suggest the limitations of the claims, in such a manner that a rejection under 35 USC 102 or 103 would be proper. The prior art fails to teach a combination of all the claimed features as presented in dependent claims 8, 12, 15, 16, 19, 23, 24, 28, 30, 31, 33, 57 and 59.

Specifically regarding claims 35 and 50, Itsumi et al. (5101278) teaches the state of the art of a driving device for transporting a lens.

But, Itsumi et al. fails to explicitly teach elastic means for enabling elastic contact between the lens and the guide means to provide the lens and the guide means with an interactive force proportional to an elastic force and a weight of a predetermined mass attached to a second end of the piezoelectric driving means opposite to the first end, as claimed.

Specifically regarding claim 43, Itsumi et al. (5101278) teaches the state of the art of a driving device for transporting a lens.

But, Itsumi et al. fails to explicitly teach guide means extended through the lens in a position adjacent to the periphery of the lens; elastic means for enabling elastic contact between the lens and the guide means to provide the lens and the guide means with an interactive force proportional to an elastic force and a weight of a predetermined mass attached to a second end of the piezoelectric driving means opposite to the first end, as claimed.

Specifically regarding claims 8 and 19, Itsumi et al. (5101278) teaches the state of the art of a driving device for transporting a lens.

But, Itsumi et al. fails to explicitly teach a weight of a predetermined mass attached to a second end of the piezoelectric driving means opposite to the first end, as claimed.

Specifically regarding claims 12 and 24, Itsumi et al. (5101278) teaches the state of the art of a driving device for transporting a lens.

But, Itsumi et al. fails to explicitly teach guide means extended through the lens in a position adjacent to the periphery of the lens, as claimed.

Specifically regarding claims 15 and 23, Itsumi et al. (5101278) teaches the state of the art of a driving device for transporting a lens.

But, Itsumi et al. fails to explicitly teach elastic means for enabling elastic contact between the lens and the guide means to provide the lens and the guide means with an interactive force proportional to an elastic force, as claimed.

Specifically regarding claims 16 and 30, Itsumi et al. (5101278) teaches the state of the art of a driving device for transporting a lens.

But, Itsumi et al. fails to explicitly teach absolute values of the supply voltage per time fed to the piezoelectric element are different from each other before and after a peak, as claimed.

Specifically regarding claim 28, Itsumi et al. (5101278) teaches the state of the art of a driving device for transporting a lens.

But, Itsumi et al. fails to explicitly teach the lens has at least one segment projected radially from the periphery of the lens, and wherein the external frame has a recess formed along a route of the lens for receiving the projected segment, as claimed.

Specifically regarding claims 31 and 57, Itsumi et al. (5101278) teaches the state of the art of a driving device for transporting a lens.

But, Itsumi et al. fails to explicitly teach the method comprising the following steps of:  
(a) moving the second end of the driving means along a transport direction of the lens at a first velocity; and (b) restoring the driving means to original configuration at a second velocity faster than the first velocity of the second end of the driving means in the step (a) to move the lens which is fixed with the first end of the driving means, as claimed.

Specifically regarding claims 33 and 59, Itsumi et al. (5101278) teaches the state of the art of a driving device for transporting a lens.

But, Itsumi et al. fails to explicitly teach the method comprising the following steps of:  
(a) moving the second end of the driving means along a transport direction of the lens at a first velocity; and (b) operating the driving means at a second velocity faster than the first velocity of the second end of the driving means in step (a) to move the lens, which is fixed to the first end of the driving means, along the transport direction of the lens beyond a position of the lens



Art Unit: 2873

that will be achieved by restoration of the driving means to its original position; and (c) restoring the second end of the driving means to its original configuration, as claimed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."


### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph P. Martinez whose telephone number is 571-272-2335. The examiner can normally be reached on M-F 7:00 AM to 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Y. Epps can be reached on 571-272-2328. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JPM  
2-8-05

  
Georgia Epps  
Supervisory Patent Examiner  
Technology Center 2800